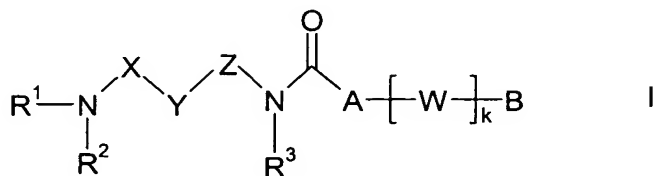


What is claimed is:

1. Carboxamide compounds comprised of general formula I



5

wherein

- 10 R^1, R^2 independently of one another denote H, a C_{1-8} -alkyl or C_{3-7} -cycloalkyl group optionally substituted by the group R^{11} or a phenyl group optionally mono- or polysubstituted by the group R^{12} and/or monosubstituted by nitro, or

- 15 R^1 and R^2 form a C_{2-8} -alkylene bridge wherein
- one or two $-\text{CH}_2-$ groups may be replaced independently of one another by $-\text{CH}=\text{N}-$ or $-\text{CH}=\text{CH}-$ and/or
 - one or two $-\text{CH}_2-$ groups may be replaced independently of one another by $-\text{O}-$, $-\text{S}-$, $-\text{CO}-$, $-\text{C}(=\text{CH}_2)-$ or $-\text{NR}^{13}-$ so that heteroatoms are not directly connected to one another,

20

while in the alkylene bridge defined above one or more H atoms may be replaced by R^{14} , and/ or

- 25 the alkylene bridge defined above may be substituted by one or two identical or different carbo- or heterocyclic groups Cy in such a way that the bond between the alkylene bridge and the group Cy is formed
- via a single or double bond,
 - via a common C atom forming a spirocyclic ring system,

- via two common, adjacent C and/or N atoms forming a fused bicyclic ring system or
- via three or more C and/or N atoms forming a bridged ring system,

5 R^3 denotes H, C_{1-6} -alkyl, C_{3-7} -cycloalkyl, C_{3-7} -cycloalkyl- C_{1-4} -alkyl-, C_{3-7} -cycloalkenyl, C_{3-7} -cycloalkenyl- C_{1-4} -alkyl-, phenyl, phenyl- C_{1-4} -alkyl-, C_{1-3} -alkoxy- C_{2-6} -alkyl-, amino- C_{2-6} -alkyl-, C_{1-3} -alkyl-amino- C_{2-6} -alkyl- or di- $(C_{1-3}$ -alkyl)-amino- C_{2-6} -alkyl-,

10 X denotes a single bond or a C_{1-8} -alkylene bridge wherein

- one or two $-CH_2$ -groups may be replaced independently of one another by $-CH=CH-$ or $-C\equiv C-$ and/or
- one or two $-CH_2$ -groups may be replaced independently of one another by $-O-$, $-S-$, $-(SO)-$, $-(SO_2)-$, $-CO-$ or $-NR^4-$ in such a way that

15 in each case two O, S or N atoms or one O atom and an S atom are not directly connected with one another,

while one or two C atoms independently of one another may be substituted by a hydroxy, ω -hydroxy- C_{1-3} -alkyl-, ω -(C_{1-3} -alkoxy)- C_{1-3} -alkyl- and/or C_{1-3} -alkoxy group and/or in each case with one or two identical or different C_{1-6} -alkyl groups, and/or

20

the alkylene bridge may be connected to R^1 so as to include the N atom connected to R^1 and X, forming a heterocyclic group,

25

Z denotes a C_{1-4} -alkylene bridge, wherein two adjacent C atoms with an additional C_{1-4} -alkylene bridge may be connected to one another, while in group Z a $-CH_2$ -group may be replaced by $-O-$ or $-NR^5-$,

30 and one or two C atoms of the alkylene bridge may be substituted independently of one another with a hydroxy, ω -hydroxy- C_{1-3} -alkyl-,

ω -(C₁₋₃-alkoxy)-C₁₋₃-alkyl-, C₁₋₃-alkoxy group, amino-C₁₋₃-alkyl-, C₁₋₃-alkyl-amino-C₁₋₃-alkyl- or di-(C₁₋₃-alkyl)-amino-C₁₋₃-alkyl- and/or with one or two identical or different C₁₋₆-alkyl groups, and/or

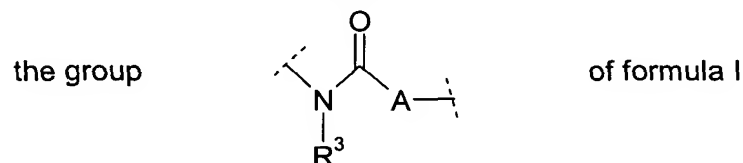
5 R³ may be connected to Z so as to include the N atom connected to R³, forming a heterocyclic group,

A, Y independently of one another have one of the meanings given for Cy,

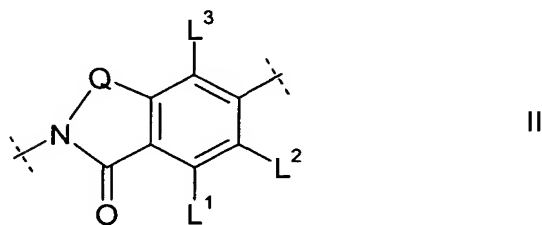
10 while R¹ may be connected to Y so as to include the group X and the N atom connected to R¹ and X, forming a heterocyclic group fused to Y, and/or

15 R³ may be connected to Y so as to include the group Z and the N atom connected to R³ and Z, forming a saturated or partially unsaturated heterocyclic group fused to Y, or

A and R³ may be connected to one another in such a way that

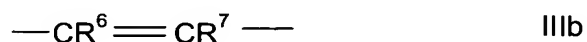


20 denotes a group of partial formula II



and

Q denotes a group, selected from the partial formulae IIIa to IIIg



5

L^1, L^2, L^3 independently of one another have one of the meanings given for R^{20} ,

B denotes C_{1-6} -alkyl, C_{1-6} -alkenyl, C_{1-6} -alkynyl, C_{3-7} -cycloalkyl- C_{1-3} -alkyl-,
 C_{3-7} -cycloalkenyl- C_{1-3} -alkyl-, C_{3-7} -cycloalkyl- C_{1-3} -alkenyl- or C_{3-7} -
 10 cycloalkyl- C_{1-3} -alkynyl-, wherein one or more C atoms may be mono- or
 polysubstituted by halogen and/ or monosubstituted by hydroxy or
 cyano and/ or cyclic groups may be mono- or polysubstituted by R^{20} , or

15

has one of the meanings given for Cy, while the bond to the group W or
 optionally directly to the group A is formed via a C atom of the
 carbocyclic moiety or of the optionally fused-on phenyl or pyridine ring
 or via an N or C atom of the heterocyclic moiety,

20

while when $k=0$ the group B and the group A may be connected to one
 another via a common C atom forming a spirocyclic ring system or

via two common, adjacent atoms forming a fused, bicyclic ring system,

W denotes a single bond, -O-, a C₁₋₄-alkylene, C₂₋₄-alkenylene, C₂₋₄-alkynylene, C₁₋₄-alkylenoxy-, Oxy-C₁₋₄-alkylene-, C₁₋₃-alkylene-oxy-C₁₋₃-alkylene-, imino, N-(C₁₋₃-alkyl)-imino-, imino-C₁₋₄-alkylene-, N-(C₁₋₃-alkyl)-imino-C₁₋₄-alkylene-, C₁₋₄-alkylene-imino- or C₁₋₄-alkylene-N-(C₁₋₃-alkyl)-imino-group,

while one or two C atoms independently of one another may be substituted by a hydroxy, ω-hydroxy-C₁₋₃-alkyl, ω-(C₁₋₃-alkoxy)-C₁₋₃-alkyl- and/ or C₁₋₃-alkoxy group and/or with one or two identical or different C₁₋₆-alkyl groups, and/or

W with the definitions alkylene, oxyalkylene and alkyleneoxyalkylene may also be connected to B via a double bond,

k denotes 0 or 1,

Cy denotes a carbo- or heterocyclic group selected from one of the following meanings

- a saturated 3- to 7-membered carbocyclic group,
- an unsaturated 5- to 7-membered carbocyclic group,
- a phenyl group,
- a saturated 4- to 7-membered or unsaturated 5- to 7-membered heterocyclic group with an N, O or S atom as heteroatom,
- a saturated or unsaturated 5- to 7-membered heterocyclic group with two or more N atoms or with one or two N atoms and an O or S atom as heteroatoms,
- an aromatic heterocyclic 5- or 6-membered group with one or more identical or different heteroatoms selected from N, O and/or S,

while the above mentioned 4, 5, 6 or 7-membered groups may be connected via two common, adjacent C atoms, fused with a phenyl or pyridine ring, and

5 in the above mentioned 5-, 6- or 7-membered groups one or two non-adjacent -CH₂-groups may be replaced by a -CO-, -C(=CH₂)-, -(SO)- or -(SO₂)-group, and

10 the above mentioned saturated 6- or 7-membered groups may also be present as bridged ring systems with an imino, N-(C₁₋₄-alkyl)-imino, methylene, C₁₋₄-alkyl-methylene or di-(C₁₋₄-alkyl)-methylene bridge, and

15 the above mentioned cyclic groups may be mono- or polysubstituted at one or more C atoms with R²⁰, and in the case of a phenyl group also additionally monosubstituted by nitro, and/or substituted by R²¹ at one or more N atoms,

R⁴, R⁵ independently of one another have one of the meanings given for R¹⁶,

20 R⁶, R⁷,
R⁸, R⁹ independently of one another denote H, a C₁₋₆-alkyl, ω-C₁₋₃-alkoxy-C₁₋₃-alkyl- or ω-hydroxy-C₁₋₃-alkyl-group and R⁶, R⁷, R⁸ independently of one another also denote halogen,

25 R¹¹ denotes R¹⁵-O-, R¹⁵-O-CO-, R¹⁶R¹⁷N-, R¹⁸R¹⁹N-CO- or Cy-,

R¹² has one of the meanings given for R²⁰,

R¹³ has one of the meanings given for R¹⁷,

30

- R^{14} denotes halogen, C_{1-6} -alkyl, R^{15} -O-, R^{15} -O-CO-, $R^{16}R^{17}N$ -, $R^{18}R^{19}N$ -CO-,
 R^{15} -O- C_{1-3} -alkyl-, R^{15} -O-CO- C_{1-3} -alkyl-, $R^{16}R^{17}N$ - C_{1-3} -alkyl-, $R^{18}R^{19}N$ -
CO- C_{1-3} -alkyl- or Cy- C_{1-3} -alkyl-,
- 5 R^{15} denotes H, C_{1-4} -alkyl, C_{3-7} -cycloalkyl, C_{3-7} -cycloalkyl- C_{1-3} -alkyl-, phenyl,
phenyl- C_{1-3} -alkyl- or pyridinyl,
- R^{16} denotes H, C_{1-6} -alkyl, C_{3-7} -cycloalkyl, C_{3-7} -cycloalkyl- C_{1-3} -alkyl-, C_{4-7} -
cycloalkenyl, C_{4-7} -cycloalkenyl- C_{1-3} -alkyl-, ω -hydroxy- C_{2-3} -alkyl-,
10 ω -(C_{1-3} -alkoxy)- C_{2-3} -alkyl-, amino- C_{1-6} -alkyl-, C_{1-3} -alkyl-amino- C_{1-6} -alkyl-
or di-(C_{1-3} -alkyl)-amino- C_{1-6} -alkyl-,
- R^{17} has one of the meanings given for R^{16} or denotes
phenyl, phenyl- C_{1-3} -alkyl-, pyridinyl, dioxolan-2-yl, C_{1-3} -alkylcarbonyl,
15 hydroxycarbonyl- C_{1-3} -alkyl-, C_{1-4} -alkoxycarbonyl,
 C_{1-3} -alkylcarbonylamino- C_{2-3} -alkyl-, C_{1-3} -alkylsulphonyl- or
 C_{1-3} -alkylsulphonylamino- C_{2-3} -alkyl-,
- R^{18} , R^{19} independently of one another denote H or C_{1-6} -alkyl,
20
- R^{20} denotes halogen, hydroxy, cyano, C_{1-4} -alkyl, C_{3-7} -cycloalkyl, hydroxy- C_{1-3} -
alkyl, R^{22} - C_{1-3} -alkyl- or has one of the meanings given for R^{22} ,
- R^{21} denotes C_{1-3} -alkyl, ω -hydroxy- C_{2-3} -alkyl-, phenyl, phenyl- C_{1-3} -alkyl-, C_{1-3} -
25 alkyl-carbonyl, carboxy, C_{1-4} -alkoxy-carbonyl, C_{1-3} -alkylsulphonyl,
phenylcarbonyl or phenyl- C_{1-3} -alkyl-carbonyl,
- R^{22} denotes pyridinyl, phenyl, phenyl- C_{1-3} -alkoxy-, C_{1-3} -alkoxy, C_{1-3} -
alkylthio, carboxy, H-CO-, C_{1-3} -alkylcarbonyl, C_{1-4} -alkoxycarbonyl,
30 aminocarbonyl, C_{1-3} -alkylaminocarbonyl, di-(C_{1-3} -alkyl)-aminocarbonyl,
 C_{1-3} -alkyl-sulphonyl-, C_{1-3} -alkyl-sulphinyl-, C_{1-3} -alkyl-sulphonylamino-,

5 amino, C₁₋₃-alkylamino-, di-(C₁₋₃-alkyl)-amino-, phenyl-C₁₋₃-alkylamino-
or N-(C₁₋₃-alkyl)-phenyl-C₁₋₃-alkylamino-, acetylamino-, propionylamino-,
phenylcarbonyl, phenylcarbonylamino-, phenylcarbonylmethylamino-,
hydroxyalkylaminocarbonyl, (4-morpholinyl)carbonyl, (1-pyrrolidinyl)-
carbonyl, (1-piperidinyl)carbonyl, (hexahydro-1-azepinyl)carbonyl, (4-
methyl-1-piperazinyl)carbonyl, methylenedioxy-, aminocarbonylamino-
or alkylaminocarbonylamino-,

10 while in the groups and residues A, B, W, X, Y, Z, R¹ to R⁹ and R¹¹ to R²² in each
case one or more C atoms may be mono- or polysubstituted by F and/or in each
case one or two C atoms independently of one another may be monosubstituted
by Cl or Br, and/or in each case one or more phenyl rings independently of one
another additionally have one, two or three substituents selected from the group
F, Cl, Br, I, C₁₋₄-alkyl, C₁₋₄-alkoxy, difluoromethyl, trifluoromethyl, hydroxy, amino,
15 C₁₋₃-alkylamino-, di-(C₁₋₃-alkyl)-amino-, acetylamino-, aminocarbonyl, CN,
difluoromethoxy, trifluoromethoxy, amino-C₁₋₃-alkyl-, C₁₋₃-alkylamino-C₁₋₃-alkyl-
and di-(C₁₋₃-alkyl)-amino-C₁₋₃-alkyl- and/or may be monosubstituted by nitro, and

20 the H atom of any carboxy group present or an H atom bound to an N atom may
be replaced in each case by a group which can be cleaved *in vivo*,

the tautomers, diastereomers, enantiomers, mixtures thereof and the salts thereof.

2. The carboxamide compounds according to claim 1, wherein group A has
25 the meanings given for Cy in claim 1.

3. The carboxamide compounds according to claim 1, wherein

30 R³ denotes H, C₁₋₆-alkyl, C₃₋₇-cycloalkyl, C₃₋₇-cycloalkyl-C₁₋₄-alkyl-, C₁₋₃-
alkoxy-C₂₋₆-alkyl-, amino-C₂₋₆-alkyl-, C₁₋₃-alkyl-amino-C₂₋₆-alkyl- or di-
(C₁₋₃-alkyl)-amino-C₂₋₆-alkyl-,

5 B has one of the meanings given for Cy, while the bond to the group W or optionally directly to the group A is formed via a C atom of the carbocyclic moiety or of the optionally fused-on phenyl or pyridine ring or via an N or C atom of the heterocyclic moiety,

while if k=0 the group B and the group A may be connected to one another via a common C atom forming a spirocyclic ring system or
10 via two common, adjacent atoms forming a fused, bicyclic ring system,

15 R¹⁵ denotes H, C₁₋₄-alkyl, C₃₋₇-cycloalkyl, C₃₋₇-cycloalkyl-C₁₋₃-alkyl-, phenyl or phenyl-C₁₋₃-alkyl-,

R¹⁷ has one of the meanings given for R¹⁶ or denotes phenyl, phenyl-C₁₋₃-alkyl-, dioxolan-2-yl, C₁₋₃-alkylcarbonyl, hydroxycarbonyl-C₁₋₃-alkyl, C₁₋₃-alkylcarbonylamino-C₂₋₃-alkyl-, C₁₋₃-alkylsulphonyl- or C₁₋₃-alkylsulphonylamino-C₂₋₃-alkyl-,
20

R²² denotes phenyl, phenyl-C₁₋₃-alkoxy-, C₁₋₃-alkoxy, C₁₋₃-alkylthio, carboxy, C₁₋₃-alkylcarbonyl, C₁₋₃-alkoxycarbonyl, aminocarbonyl, C₁₋₃-alkylaminocarbonyl, di-(C₁₋₃-alkyl)-aminocarbonyl, C₁₋₃-alkyl-sulphonyl, C₁₋₃-alkyl-sulphinyl, C₁₋₃-alkyl-sulphonylamino-, amino, C₁₋₃-alkylamino-, di-(C₁₋₃-alkyl)-amino-, phenyl-C₁₋₃-alkylamino- or N-(C₁₋₃-alkyl)-phenyl-C₁₋₃-alkylamino-, acetylamino-, propionylamino-, phenylcarbonyl, phenylcarbonylamino-, phenylcarbonylmethyl-amino-, hydroxyalkylaminocarbonyl, (4-morpholinyl)carbonyl, (1-pyrrolidinyl)carbonyl, (1-piperidinyl)carbonyl, (hexahydro-1-azepinyl)carbonyl, (4-methyl-1-piperazinyl)carbonyl,
25
30

methylenedioxy, aminocarbonylamino- or
alkylaminocarbonylamino-,

5 while in the groups A, B, W, X, Y, Z, R¹ to R⁹ and R¹¹ to R²² in each case
one or more C atoms may be mono- or polysubstituted by F and/or in each
case one or two C atoms independently of one another may be
monosubstituted by Cl or Br, and

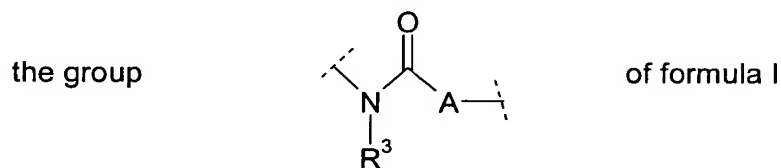
10 the groups A, W, X, Y, Z, R¹, R², R⁴ to R⁹, R¹¹ to R¹⁴, R¹⁶ and R¹⁸ to R²¹
and k have the meanings according to claim 1, and

the H atom of any carboxy group present or an H atom bound to an N
atom in each case by a group which can be cleaved in vivo may be
replaced,

15 the tautomers, diastereomers, enantiomers, mixtures thereof and the salts
thereof.

4. Carboxamide compounds according to claim 3, wherein group A has the
20 meanings given for Cy in claim 3.

5. The carboxamide compounds according to claim 1, wherein A and R³ are
connected to one another such that



25 denotes a group of partial formula II



denotes a group, selected from the partial formulae IIIa to IIIg

Q

IIIa

111b

IIIc

III d

IIIe

111f

IIIg

R⁶, R⁷, R⁸ and R⁹ have the meanings given in claim 1.

$L^1, L^2, L^3, R^6, R^7, R^8$ and R^9 have the meanings given in claim 1.

15

while in the above mentioned groups and residues one or more C atoms

may be mono- or polysubstituted by F and/or one or two C atoms
independently of one another may be monosubstituted by Cl or Br and

5 the phenyl group may be mono- or polysubstituted by the group R^{12}
defined in claim 1 and/or monosubstituted by nitro.

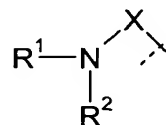
7. Carboxamide compounds according to claim 1, wherein R^1 and R^2 form an
alkylene bridge according to claim 1 in such a way that R^1R^2N - forms a
10 group selected from azetidine, pyrrolidine, piperidine, azepan, 2,5-dihydro-
1H-pyrrole, 1,2,3,6-tetrahydro-pyridine, 2,3,4,7-tetrahydro-1H-azepinyl,
2,3,6,7-tetrahydro-1H-azepine, morpholine, thiomorpholine, and
piperazine, wherein the free imine function may be substituted with R^{13} ,

15 wherein one or more H atoms may be replaced by R^{14} , and/ or may be
substituted in the manner specified in claim 1 with one or two identical or
different carbo- or heterocyclic groups Cy,

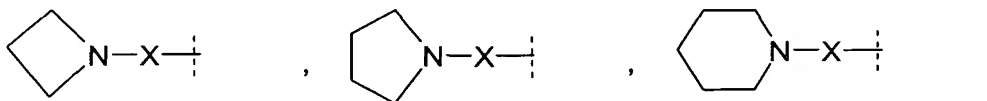
where R^{13} , R^{14} and Cy have the meanings given in claim 1.

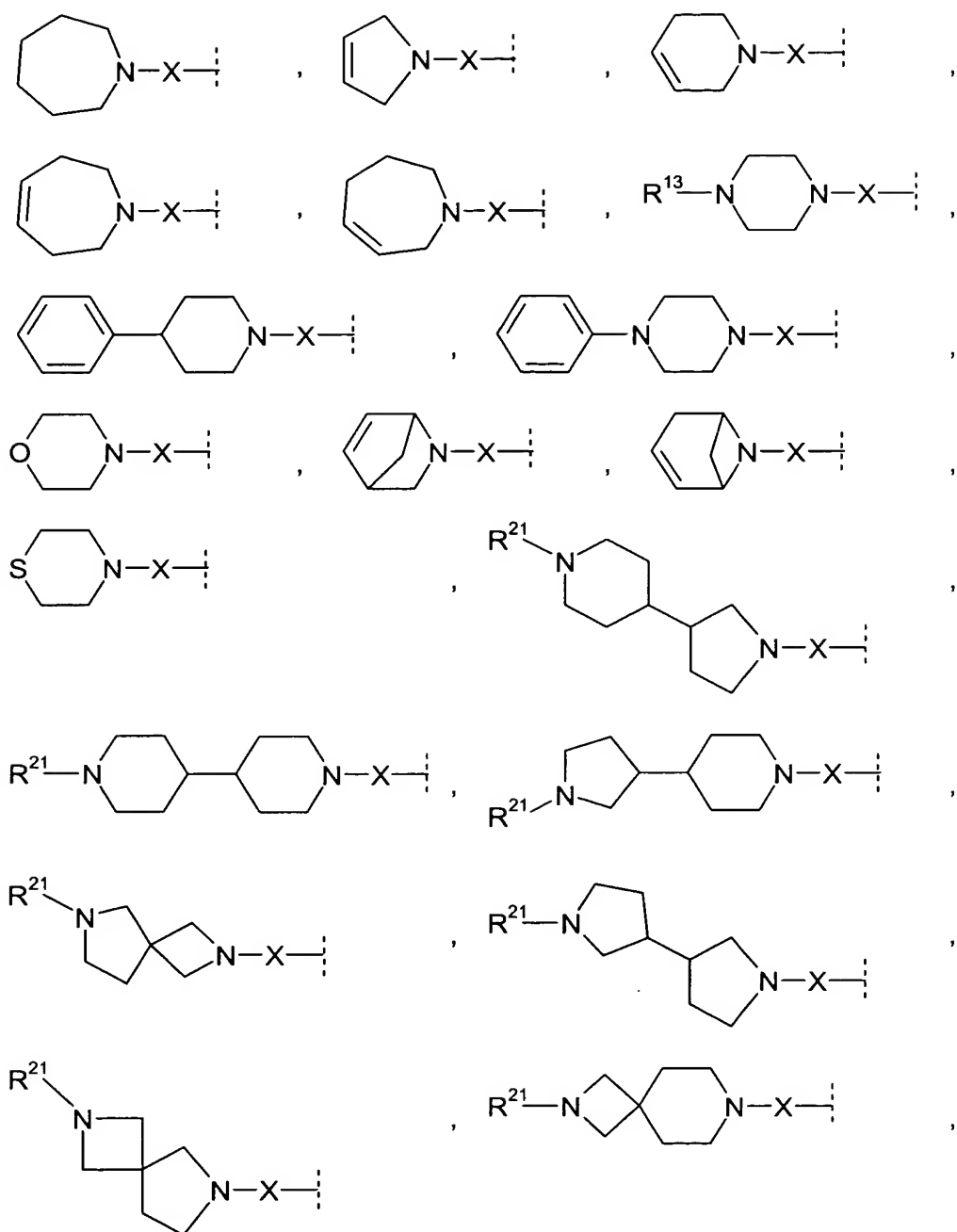
20 8. The carboxamide compounds according to claim 1, wherein

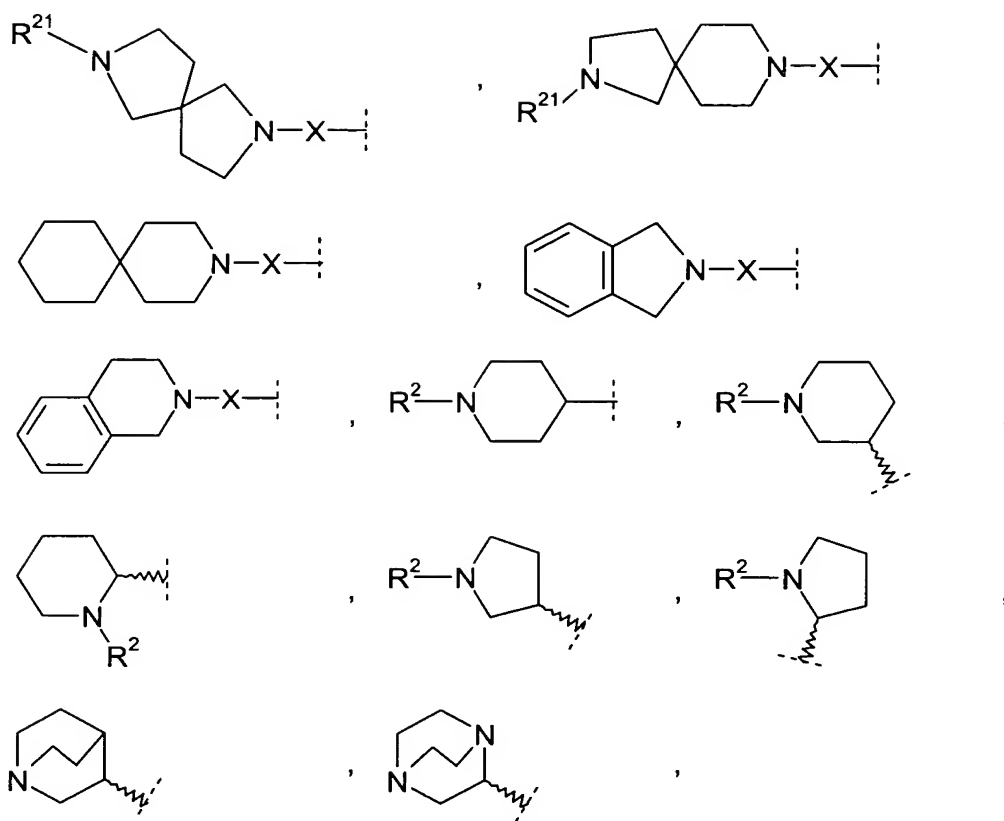
the group



has a meaning according to one of the following partial formulae







wherein one or more H atoms of the heterocycle formed by the group R^1R^2N - may be replaced by R^{14} and the ring connected to the heterocycle formed by the group R^1R^2N may be mono- or polysubstituted at one or more C atoms with R^{20} , and in the case of a phenyl ring may also additionally be monosubstituted by nitro and

wherein R^{13} , R^{14} , R^{20} , R^{21} and X have the meanings given in claim 1.

- 10 9. The carboxamide compounds according to claim 1, wherein X denotes a single bond or an unbranched bridge selected from C_{1-6} -alkylene, C_{2-6} -alkenylene, C_{2-6} -alkynylene, C_{1-6} -alkylenoxy, carbonyl, carbonyl- C_{1-6} -alkylene or C_{1-6} -alkylene-amino, wherein the amino group may be substituted with R^4 ,

while one or two C atoms may be substituted as specified in claim 1
and/or the alkylene bridge may be connected to R¹ as specified in claim 1.

10. The carboxamide compounds according to claim 1, wherein X denotes a
5 single bond, carbonyl or an alkylene bridge selected from methylene, 1,2-
ethylene, 1,3-propylene and 1,4-butylene,

wherein one or two C atoms independently of one another may be
substituted with a hydroxy, ω -hydroxy-C₁₋₃-alkyl, ω -(C₁₋₃-alkoxy)-C₁₋₃-alkyl-
10 and/or C₁₋₃-alkoxy group and/or in each case may be substituted with one
or two identical or different C₁₋₄-alkyl groups, and

in each case one or more C atoms may be mono- or polysubstituted by F
and/or in each case one or two C atoms independently of one another
15 may be monosubstituted by Cl or Br.

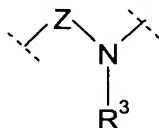
11. The carboxamide compounds according to claim 1, wherein Z denotes
methylene, 1,2-ethylene, 1,3-propylene, 1,4-butylene, methyleneoxy, 1,2-
ethyleneoxy, 1,3-propyleneoxy or 1,4-butyleneoxy,
20

wherein one or two C atoms independently of one another may be
substituted with a hydroxy, ω -hydroxy-C₁₋₃-alkyl, ω -(C₁₋₃-alkoxy)-C₁₋₃-alkyl-
and/or C₁₋₃-alkoxy group and/or in each case may be substituted with one
or two identical or different C₁₋₄-alkyl groups, and
25

in each case one or more C atoms may be mono- or polysubstituted by F
and/or in each case one or two C atoms independently of one another
may be monosubstituted by Cl or Br and

- 30 R³ may be connected to Z so as to include the N atoms linked to R³
forming a heterocyclic group.

12. The carboxamide compounds according to claim 11, wherein Z is selected from the group of the bridges -CH₂-, -CH₂-CH₂-, -CH₂-CH(CH₃)-, -CH₂-C(CH₃)₂-, -CH(CH₃)-CH₂-, -C(CH₃)₂-CH₂- and -CH₂-O- or Z is linked to R³ in such a way that the group of partial formula



has a meaning selected from 1,3-pyrrolidinylene,

5

1,3-piperidinylene, 1,2,5,6-tetrahydropyridin-1,3-ylene and 3-hydroxy-1,3-piperidinylene.

13. The carboxamide compounds according to claim 1, wherein R³ is selected from among methyl, ethyl, n-propyl, iso-propyl, 2-hydroxyethyl, 3-hydroxy-n-propyl and 2-hydroxy-1-methyl-ethyl-, while in the above mentioned groups one, two or three H atoms may be replaced by F, or is selected from among H, amino-C₂₋₃-alkyl-, C₁₋₃-alkyl-amino-C₂₋₃-alkyl- and di-(C₁₋₃-alkyl)-amino-C₂₋₃-alkyl-.

15

14. The carboxamide compounds according to claim 1, wherein the group Y is selected from among the bivalent cyclic groups 1,2-cyclopropylene, 1,3-cyclobutylene, 1,3-cyclopentylene, 1,3-cyclopentenylene, 1,3- and 1,4-cyclohexylene, 1,3-phenylene, 1,4-phenylene, 1,3- and 1,4-cyclohexenylene, 1,4-cycloheptylene, 1,4-cycloheptenylene, 1,3-pyrrolidinylene, 1,3-pyrrolinylene, 1,3-pyrrolylene, 1,4-piperidinylene, 1,4-tetrahydropyridinylene, 1,4-dihydropyridinylene, 2,4- and 2,5-pyridinylene or 1,4-piperazinylene,

while the above mentioned 5-, 6- or 7-membered groups may be connected through two common, adjacent C atoms fused with a phenyl or pyridine ring,

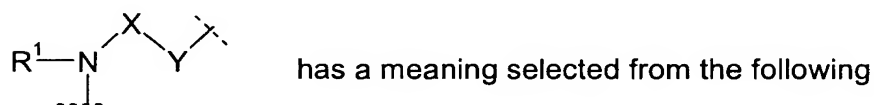
the above mentioned cyclic groups may be mono- or polysubstituted at one or more C atoms with R^{20} , in the case of a phenyl group they may also additionally be monosubstituted by nitro, and/or may be substituted with R^{21} at one or more N atoms,

5

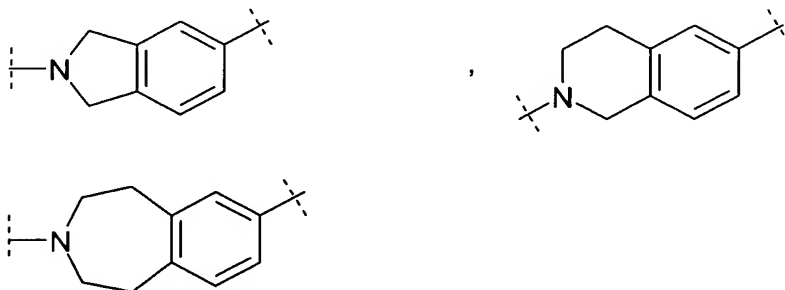
while R^1 may be connected to Y and/or R^3 to Y as specified in claim 1, and

R^1 , R^3 , R^{20} and R^{21} have the meanings given in claim 1.

- 10 15. The carboxamide compounds according to claim 14, wherein R^1 is linked to Y in such a way that the group of partial formula



partial formulae



15

16. The carboxamide compounds according to claim 1, wherein group A is selected from among the bivalent cyclic groups 1,2-cyclopropylene, 1,3-cyclobutylene, 1,3-cyclopentylene, 1,3-cyclopentenylene, 1,3- and 1,4-cyclohexylene, 1,3- and 1,4-phenylene, 1,3- and 1,4-cyclohexenylene, 1,4-cycloheptylene, 1,4-cycloheptenylene, 1,3-pyrrolidinylene, 1,3-
- 20

pyrrolinylene, 1,3-pyrrolylene, 1,4-piperidinylene, 1,4-tetrahydropyridinylene, 1,4-dihydropyridinylene, 2,4- and 2,5-pyridinylene, 1,4-piperazinylene, 7-aza-bicyclo[2.2.1]heptan-2,7-diyl and 8-aza-bicyclo[3.2.1]octan-3,8-diyl,

5

while the above mentioned 5-, 6- or 7-membered groups may be linked by two common, adjacent C atoms fused with a phenyl or pyridine ring, and

10

the above mentioned cyclic groups may be mono- or polysubstituted at one or more C atoms with R^{20} , in the case of a phenyl ring they may also additionally be monosubstituted by nitro, and/or they may be substituted at one or more N atoms with R^{21} , and

R^{20} , R^{21} and Y have the meanings given in claim 1.

15

17. The carboxamide compounds according to claim 1, wherein group B is selected from among cyclopropyl, cyclobutyl, cyclopentyl, cyclopentenyl, cyclohexyl, cyclohexanonyl, cyclohexenyl, phenyl, cycloheptyl, cycloheptenyl, aziridinyl, azetidiny, pyrrolidinyl, pyrrolinyl, pyrrolyl, piperidinyl, tetrahydropyridinyl, dihydropyridinyl, pyridinyl, azepanyl, piperazinyl, 1H-pyrazolyl, imidazolyl, triazolyl, tetrazolyl, morpholinyl, thiomorpholinyl, indolyl, isoindolyl, quinolinyl, benzoimidazolyl, isoquinolinyl, furanyl and thienyl,

20

25 while the bond to the group W or optionally directly to the group A is made via a C atom of the carbocyclic moiety or of the optionally fused-on phenyl or pyridine ring or via an N or C atom of the heterocyclic moiety,

or B together with the group W connected by a double bond is selected from the group cyclopentylidene-methyl, cyclohexylidene-methyl and cyclohexanone-4-ylidene-methyl, and

5 the above mentioned cyclic groups may be mono- or polysubstituted at one or more C atoms with R^{20} , in the case of a phenyl group may also additionally be monosubstituted by nitro, and/or may be substituted with R^{21} at one or more N atoms, and

10 R^{20} and R^{21} have the meanings given in claim 1.

18. Carboxamide compounds according to claim 1, wherein group B is selected from among C_{1-6} -alkyl, C_{1-6} -alkenyl, C_{1-6} -alkynyl, C_{3-7} -cycloalkyl- C_{1-3} -alkyl-, C_{3-7} -cycloalkenyl- C_{1-3} -alkyl-, C_{3-7} -cycloalkyl- C_{1-3} -alkenyl- or C_{3-7} -cycloalkyl- C_{1-3} -alkynyl-, wherein one or more C atoms may be mono- or polysubstituted by halogen and/ or monosubstituted by hydroxy or cyano and/ or cyclic groups may be mono- or polysubstituted by R^{20} , and

20 W denotes a single bond, -O-, a C_{1-4} -alkylene, C_{2-4} -alkenylene, C_{2-4} -alkynylene, C_{1-4} -alkyleneoxy, oxy- C_{1-4} -alkylene-, C_{1-3} -alkylene-oxy- C_{1-3} -alkylene-, imino, N-(C_{1-3} -alkyl)-imino-, imino- C_{1-4} -alkylene-, N-(C_{1-3} -alkyl)-imino- C_{1-4} -alkylene-, C_{1-4} -alkylene-imino- or C_{1-4} -alkylene-N-(C_{1-3} -alkyl)-imino-group, while one or two C atoms independently of one another may be substituted with a hydroxy, ω -hydroxy- C_{1-3} -alkyl, ω -(C_{1-3} -alkoxy)- C_{1-3} -alkyl- and/ or C_{1-3} -alkoxy group and/or with one or two identical or

25 different C_{1-4} -alkyl groups, and

k denotes 0 or 1 and

30 R^{20} has the meanings given in claim 1.

19. Carboxamide compounds according to claim 1, wherein $k=0$ and the group A is linked to the group B through a common C atom forming a spirocyclic ring system,

5

while the group A represents a saturated 5- to 7-membered carbo- or heterocyclic group and the group B denotes a saturated 4- to 7-membered carbo- or heterocyclic group, and

- 10 the heterocyclic groups in each case contain an N, O or S atom, and a phenyl or pyridine ring may be fused to a 5- to 7-membered group B through two adjacent C atoms, and

15 the above mentioned cyclic groups may be mono- or polysubstituted at one or more C atoms with R^{20} , in the case of a fused-on phenyl ring they may additionally be monosubstituted by nitro, and/or may be substituted with R^{21} at one or more N atoms, while R^{20} and R^{21} have the meanings given in claim 1.

- 20 20. The carboxamide compounds according to claim 1, wherein $k=0$ and the group B is linked to the group A through two common, adjacent atoms forming a fused, bicyclic saturated, unsaturated or aromatic, 8- to 12-membered carbo- or heterocyclic ring system,

25 while the heterocyclic ring system has one or more identical or different heteroatoms selected from N, O and/or S, and

30 the bicyclic ring system may be mono- or polysubstituted at one or more C atoms with R^{20} , in the case of a fused-on phenyl ring it may also additionally be monosubstituted by nitro, and/or may be substituted with R^{21} at one or more N atoms, while R^{20} and R^{21} have the meanings given in

claim 1.

21. The carboxamide compounds according to claim 1, wherein W is a single bond, -CH₂- or -CH=.

5

22. Carboxamide compounds according to claim 1, wherein

Y, A independently of one another are selected from among the bivalent cyclic groups 1,4-phenylene, 1,4-cyclohexylene, 1,4-cyclohexenylene, 1,4-piperidinylene, 1,2,3,6-tetrahydro-pyridin-1,4-ylene, 2,5-pyridinylene and 1,4-piperazinylene, while A may also be connected to R³ according to claim 3, and the above mentioned cyclic groups may be mono- or polysubstituted by R²⁰ at one or more C atoms, in the case of a phenyl group they may also additionally be monosubstituted by nitro, and/or may be substituted by R²¹ at one or more N atoms,

10

15

B denotes phenyl or cyclohexyl, while the above mentioned groups may be mono- or polysubstituted by R²⁰ and/or the phenyl ring may additionally be monosubstituted by nitro, while R²⁰ has the meanings given in claim 1, and

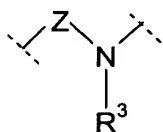
20

W is a single bond, -CH₂- or -CH=, and

Z denotes -CH₂-CH₂-, -CH₂-CH(CH₃)-, -CH₂-C(CH₃)₂-, -CH(CH₃)-CH₂-, -C(CH₃)₂-CH₂- or -CH₂-O- or

25

is linked to R³ in such a way that the group of partial formula



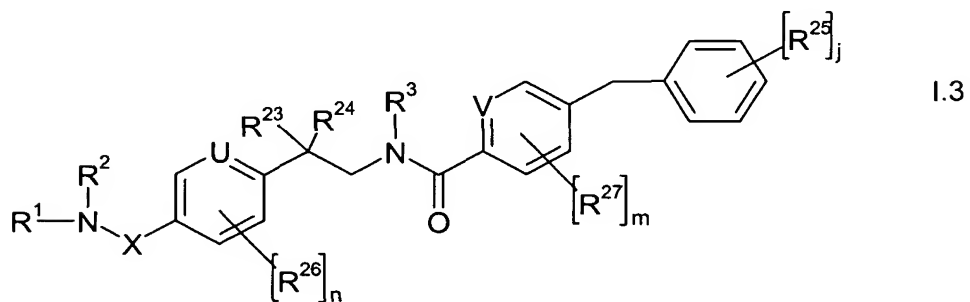
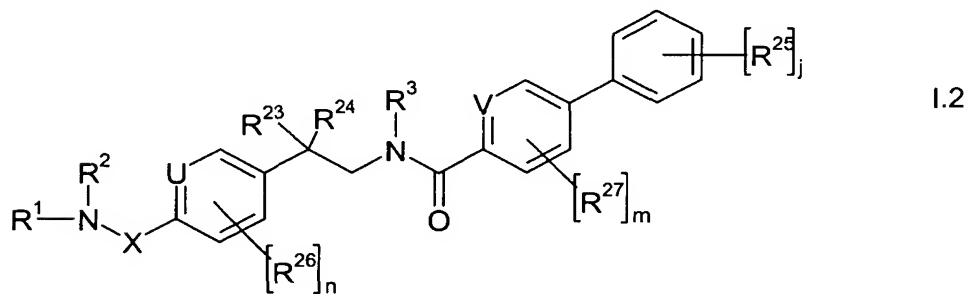
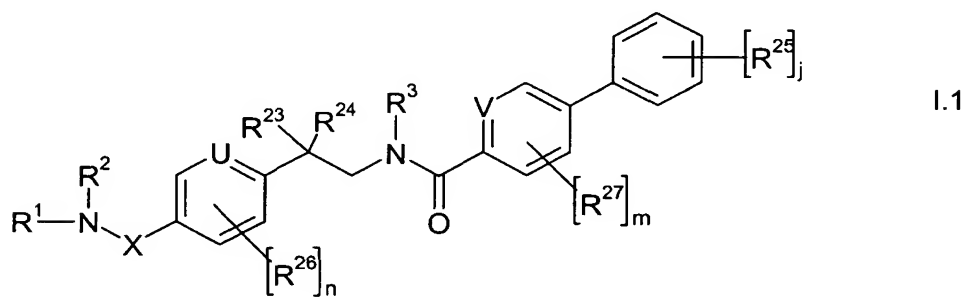
of formula I has a meaning selected from

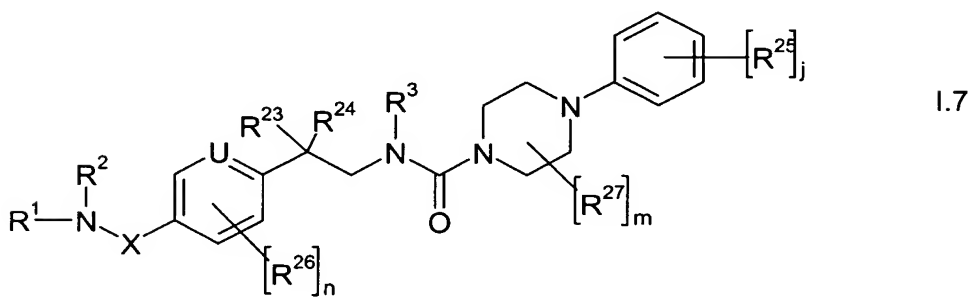
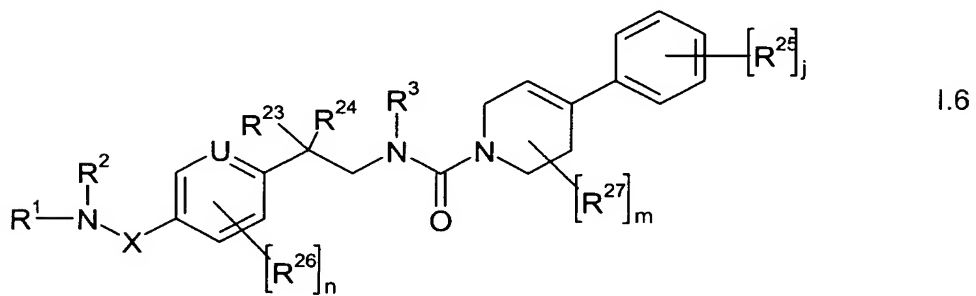
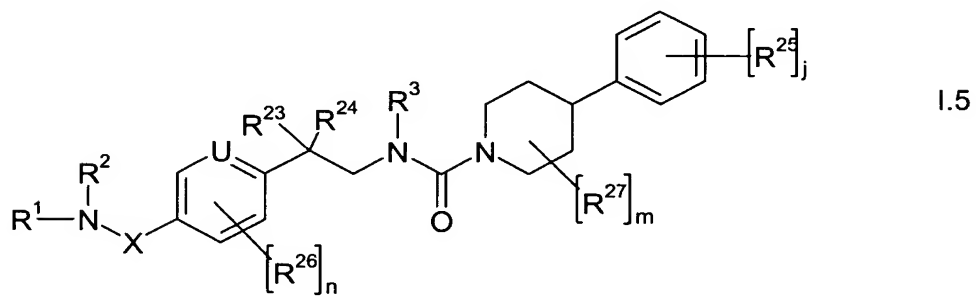
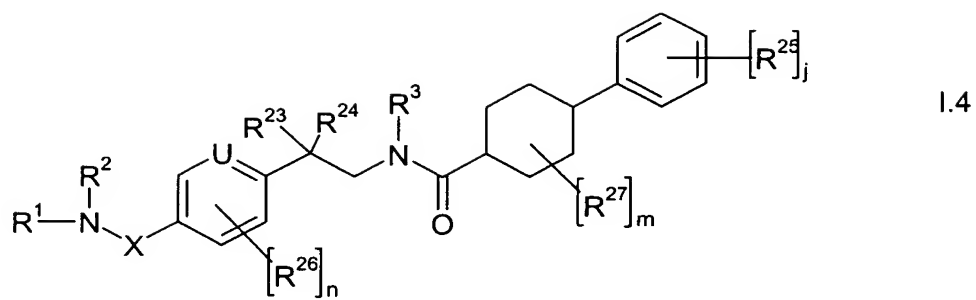
1,3-pyrrolidinylene and 1,3-piperidinylene and

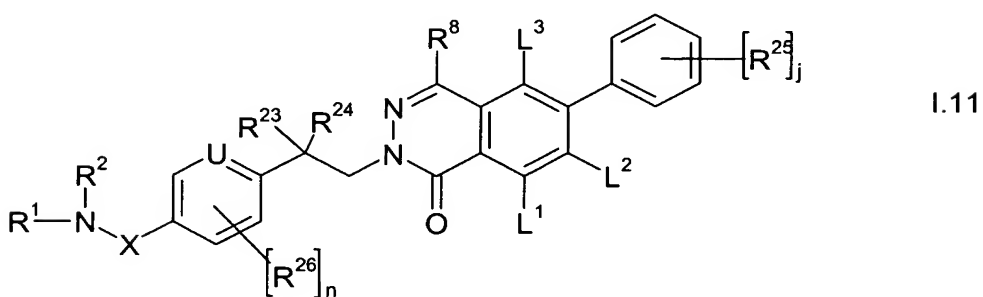
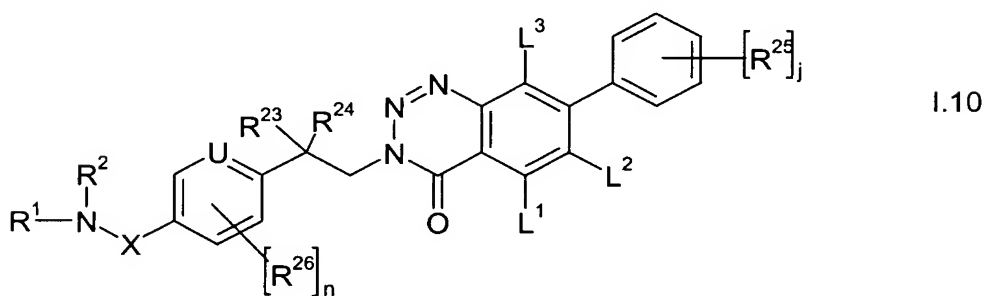
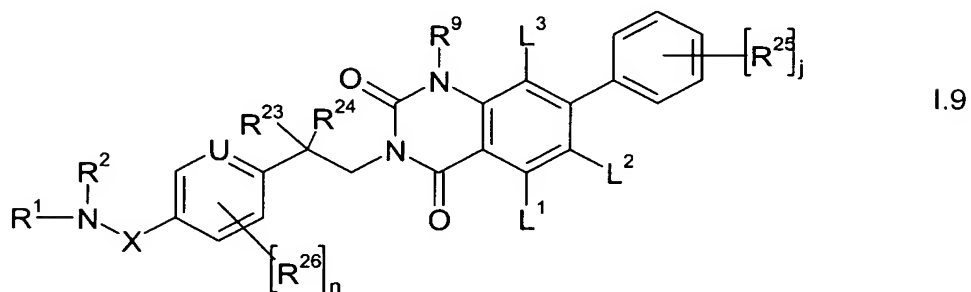
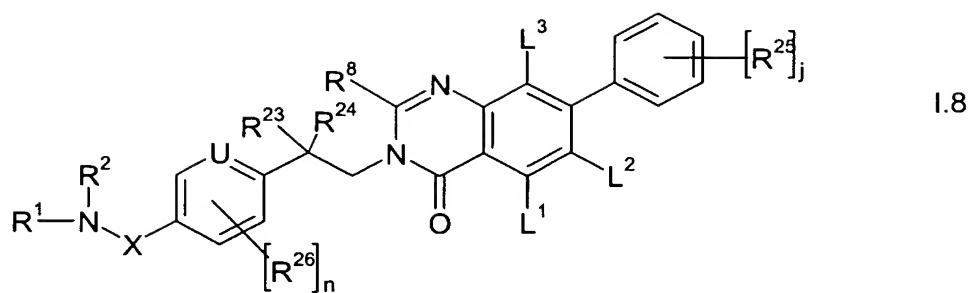
R^3 , R^{20} and R^{21} have the meanings given in claim 1.

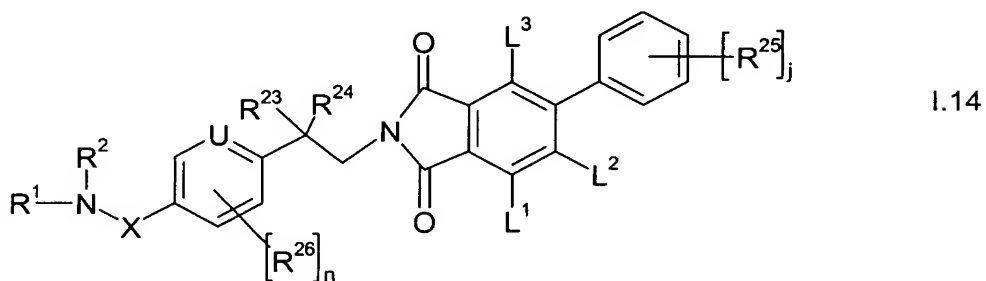
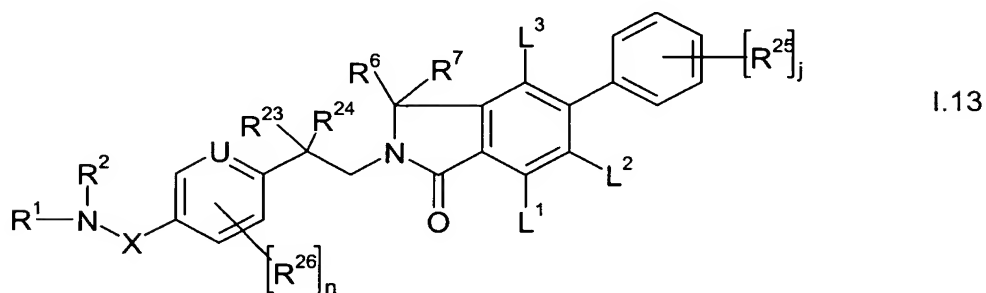
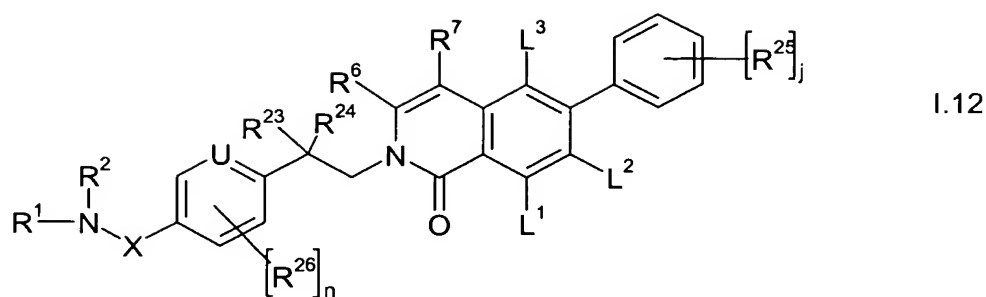
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23. Carboxamide compounds according to claim 1 from among formulae I.1 to I.14









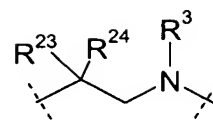
wherein

U, V independently of one another denote C or N,

R^{23} , R^{24} independently of one another denote H, F, methyl, trifluoromethyl, ethyl, iso-propyl or n-propyl,

while in formulae I.1 to I.6 R^{24} may be connected to R^3 in such a way that

the group of partial formula



has a meaning selected from 1,3-pyrrolidinylene and 1,3-piperidinylene, and

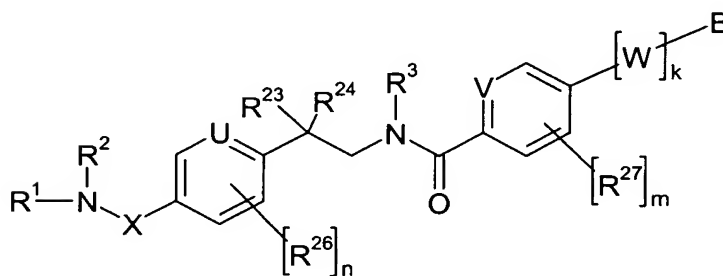
5 R^{25} ,
 R^{26} , R^{27} independently of one another have one of the meanings given for R^{20} according to claim 1 or in the case of a phenyl group also simply denote nitro, while repeatedly occurring groups R^{25} , R^{26} , R^{27} may have identical or different meanings, and

10 j is 0, 1, 2, 3 or 4 and

m, n independently of one another denote 0, 1 or 2 and

15 L^1 , L^2 , L^3 , R^1 , R^2 , R^3 , R^6 , R^7 , R^8 , R^9 , R^{20} and X have the meanings given in claim 1.

24. Carboxamide compounds according to claim 1, characterised by the formula I.15



I.15

20

wherein

- 5 B is selected from among C₁₋₆-alkyl, C₁₋₆-alkenyl, C₁₋₆-alkynyl, C₃₋₇-cycloalkyl-C₁₋₃-alkyl-, C₃₋₇-cycloalkenyl-C₁₋₃-alkyl-, C₃₋₇-cycloalkyl-C₁₋₃-alkenyl- or C₃₋₇-cycloalkyl-C₁₋₃-alkynyl-, wherein one or more C atoms may be mono- or polysubstituted by halogen and/ or monosubstituted by hydroxy or cyano and/ or cyclic groups may be mono- or polysubstituted by R²⁰, and
- 10 W denotes a single bond, -O-, a C₁₋₄-alkylene, C₂₋₄-alkenylene, C₂₋₄-alkynylene, C₁₋₄-alkylenoxy-, oxy-C₁₋₄-alkylene-, C₁₋₃-alkylene-oxy-C₁₋₃-alkylene-, imino, N-(C₁₋₃-alkyl)-imino-, imino-C₁₋₄-alkylene-, N-(C₁₋₃-alkyl)-imino-C₁₋₄-alkylene-, C₁₋₄-alkylene-imino- or C₁₋₄-alkylene-N-(C₁₋₃-alkyl)-imino group, while one or two C atoms independently of one another may be substituted by a hydroxy, ω-hydroxy-C₁₋₃-alkyl, ω-(C₁₋₃-alkoxy)-C₁₋₃-alkyl and/ or C₁₋₃-alkoxy group and/or by one or two identical or different C₁₋₄-alkyl groups, and
- 15 k denotes 0 or 1 and
- 20 U, V, R²³, R²⁴, R²⁶, R²⁷, m, n, L¹, L², L³, R¹, R², R³, R⁶, R⁷, R⁸, R⁹, R²⁰ and X have the meanings given in claim 23.
- 25 25. Carboxamide compounds according to claim 24, wherein U and V in each case represent a C atom.
26. Carboxamide compounds according to claim 1, wherein X is -CH₂-, -CH(CH₃)- or -C(CH₃)₂-.

27. Carboxamide compounds according to claim 26, wherein

5 R^{25} ,
 R^{26}, R^{27} independently of one another denote F, Cl, Br, I, OH, cyano,
 methyl, difluoromethyl, trifluoromethyl, ethyl, n-propyl, iso-
 propyl, methoxy, difluoromethoxy, trifluoromethoxy, ethoxy, n-
 propoxy or iso-propoxy, in the case of a substitution of a phenyl
 group they may also denote nitro, while repeatedly occurring
10 groups R^{25} , R^{26} , R^{27} may have identical or different meanings,
 and

 j is 0, 1 or 2, and

15 m, n independently of one another are 0 or 1.

28. Carboxamide compounds according to claim 1, wherein R^6 , R^7 , R^8 and/or
 R^9 independently of one another denote H, methyl, trifluoromethyl, ethyl,
 iso-propyl or n-propyl, if R^6 , R^7 also represent F.
20

29. Carboxamide compounds according to claim 1 selected from among the
 formulae:

- (1) 7-(4-chloro-phenyl)-3-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-
 ethyl]-3*H*-quinazolin-4-one
- (2) 3-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-7-*p*-tolyl-3*H*-
 quinazolin-4-one
- (3) 3-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-7-(4-
 trifluoromethyl-phenyl)-3*H*-quinazolin-4-one

- (4) 7-(4-methoxy-phenyl)-3-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-3*H*-quinazolin-4-one
- (5) 7-(3,4-dichloro-phenyl)-3-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-3*H*-quinazolin-4-one
- (6) 7-(4-fluoro-phenyl)-3-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-3*H*-quinazolin-4-one
- (7) 7-(4-ethyl-phenyl)-3-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-3*H*-quinazolin-4-one
- (8) 2-methyl-3-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-7-(4-trifluoromethyl-phenyl)-3*H*-quinazolin-4-one
- (9) 2-methyl-3-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-7-*p*-tolyl-3*H*-quinazolin-4-one
- (10) 7-(4-chloro-phenyl)-2-methyl-3-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-3*H*-quinazolin-4-one
- (11) 7-(4-chloro-phenyl)-3-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-1*H*-quinazolin-2,4-dione
- (12) 7-(4-chloro-phenyl)-3-{2-[4-((*S*)-2-methoxymethyl-pyrrolidin-1-ylmethyl)-phenyl]-ethyl}-3*H*-quinazolin-4-one
- (13) 7-(4-chloro-phenyl)-3-[2-(4-dimethylaminomethyl-phenyl)-ethyl]-3*H*-quinazolin-4-one
- (14) 7-(4-chloro-phenyl)-3-[2-(4-piperidin-1-ylmethyl-phenyl)-ethyl]-3*H*-quinazolin-4-one
- (15) 7-(4-chloro-phenyl)-3-[2-(4-morpholin-4-ylmethyl-phenyl)-ethyl]-3*H*-quinazolin-4-one
- (16) 7-(4-chloro-phenyl)-3-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-3*H*-benzo[*d*][1,2,3]triazin-4-one

- (17) 5-(4-fluoro-phenyl)-2-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-isoindol-1,3-dione
- (18) 4'-chloro-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (19) 4'-chloro-biphenyl-4-carboxylic acid-[2-(4-diethylaminomethyl-phenyl)-ethyl]-amide
- (20) 4'-chloro-biphenyl-4-carboxylic acid-[2-(4-piperidin-1-ylmethyl-phenyl)-ethyl]-amide
- (21) 4'-methoxy-biphenyl-4-carboxylic acid-[2-(4-diethylaminomethyl-phenyl)-ethyl]-amide
- (22) 4'-chloro-biphenyl-4-carboxylic acid-[2-(4-diethylaminomethyl-phenyl)-ethyl]-methyl-amide
- (23) 4-(4-chloro-phenyl)-cyclohexanecarboxylic acid-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (24) 4-methylphenyl-piperidine-1-carboxylic acid-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (25) 4-(4-chloro-phenyl)-3,6-dihydro-2*H*-pyridine-1-carboxylic acid-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (26) 4-(4-chloro-phenyl)-piperidine-1-carboxylic acid-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (27) 4'-chloro-biphenyl-4-carboxylic acid-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-propyl]-amide
- (28) 4'-chloro-biphenyl-4-carboxylic acid-(4-pyrrolidin-1-ylmethyl-benzyloxy)-amide
- (29) 4-cyclohexyl-*N*-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-benzamide

- (30) 4'-chloro-biphenyl-4-carboxylic acid-[2-(3-methoxy-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (31) 7-(4-chloro-phenyl)-3-{2-[6-(4-methyl-piperazin-1-yl)-pyridin-3-yl]-ethyl}-3*H*-quinazolin-4-one
- (32) 4'-chloro-biphenyl-4-carboxylic acid-{2-[6-(4-methyl-piperazin-1-yl)-pyridin-3-yl]-ethyl}-amide
- (33) 7-(3-methoxy-phenyl)-3-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-3*H*-quinazolin-4-one
- (34) 4-(4-oxo-cyclohexyl)-*N*-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-benzamide
- (35) 4-cyclohexyl-1-cyclohexylcarboxylic acid-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (36) 4-benzyl-piperidine-1-carboxylic acid-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (37) 4-cyclohexyl-piperidine-1-carboxylic acid-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (38) 4-(4-chloro-phenyl)-piperazine-1-carboxylic acid-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (39) 4-(4-fluoro-phenyl)-piperidine-1-carboxylic acid-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (40) 4-(4-methoxy-phenyl)-piperazine-1-carboxylic acid-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (41) 4-phenyl-piperidine-1-carboxylic acid-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (42) (4'-chloro-biphenyl-4-yl)-[3-(4-pyrrolidin-1-ylmethyl-phenyl)-piperidin-1-yl]-methanone

- (43) 4'-chloro-biphenyl-4-carboxylic acid-[2-methyl-2-(4-pyrrolidin-1-ylmethyl-phenyl)-propyl]-amide
- (44) 4'-chloro-biphenyl-4-carboxylic acid-[2-(4-pyrrolidin-1-ylmethyl-cyclohexyl)-ethyl]-amide
- (45) 4-benzyl-*N*-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-benzamide
- (46) 4-(4-oxo-cyclohexylidenemethyl)-*N*-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-benzamide
- (47) 4'-chloro-biphenyl-4-carboxylic acid-[2-(2-fluoro-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (48) 5-(4-chloro-phenyl)-2-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-2,3-dihydro-isoindol-1-one
- (49) 4-piperidin-1-yl-*N*-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-benzamide
- (50) 7-(4-chloro-phenyl)-3-{2-[4-(4-hydroxy-4-phenyl-piperidin-1-ylmethyl)-phenyl]-ethyl}-3*H*-benzo[*d*][1,2,3]triazin-4-one
- (51) 7-(4-chloro-phenyl)-3-{2-[4-(3-aza-spiro[5.5]undec-3-ylmethyl)-phenyl]-ethyl}-3*H*-quinazolin-4-one
- (52) 7-(4-chloro-phenyl)-3-{2-[4-(3-aza-spiro[5.5]undec-3-ylmethyl)-phenyl]-ethyl}-3*H*-benzo[*d*][1,2,3]triazin-4-one
- (53) 7-(4-chloro-phenyl)-3-{2-[4-(4-hydroxy-4-phenyl-piperidin-1-ylmethyl)-phenyl]-ethyl}-3*H*-quinazolin-4-one
- (54) 7-(4-chloro-phenyl)-3-(2-{4-[4-(pyridin-2-yloxy)-piperidin-1-ylmethyl]-phenyl}-ethyl)-3*H*-quinazolin-4-one
- (55) 6-(4-chloro-phenyl)-2-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-2*H*-isoquinolin-1-one

- (56) 4'-chloro-biphenyl-4-carboxylic acid [2-(3-bromo-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (57) 4'-chloro-biphenyl-4-carboxylic acid [2-(3-methyl-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (58) 4'-chloro-biphenyl-4-carboxylic acid {2-[4-(1-ethyl-piperidin-2-yl)-phenyl]-ethyl}-amide
- (59) 4'-chloro-biphenyl-4-carboxylic acid{2-[4-(4-acetyl-piperazin-1-ylmethyl)-phenyl]-ethyl}-amide
- (60) 4'-chloro-biphenyl-4-carboxylic acid{2-[4-(2-aza-bicyclo[2.2.1]hept-5-en-2-ylmethyl)-phenyl]-ethyl}-amide
- (61) 4'-chloro-biphenyl-4-carboxylic acid {2-[4-(1,3-dihydro-isoindol-2-ylmethyl)-phenyl]-ethyl}-amide
- (62) 4'-chloro-biphenyl-4-carboxylic acid (2-{4-[(diisopropylamino)-methyl]-phenyl}-ethyl)-amide
- (63) 4'-chloro-biphenyl-4-carboxylic acid {2-[3-bromo-4-(2,5-dihydro-pyrrol-1-ylmethyl)-phenyl]-ethyl}-amide
- (64) 4'-chloro-biphenyl-4-carboxylic acid{2-[4-(2-dimethylaminomethyl-pyrrolidin-1-ylmethyl)-phenyl]-ethyl}-amide
- (65) 4'-chloro-biphenyl-4-carboxylic acid{2-[4-(3-dimethylamino-pyrrolidin-1-ylmethyl)-phenyl]-ethyl}-amide
- (66) 4'-chloro-biphenyl-4-carboxylic acid [2-(2-bromo-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (67) 4-pent-1-ynyl-*N*-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-benzamide
- (68) 4'-chloro-biphenyl-4-carboxylic acid [2-(6-pyrrolidin-1-ylmethyl-pyridin-3-yl)-ethyl]-amide

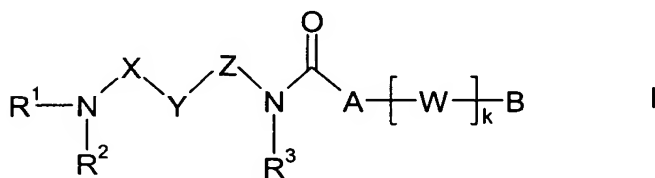
- (69) 4'-chloro-biphenyl-4-carboxylic acid [2-(1-pyrrolidin-1-yl-indan-5-yl)-ethyl]-amide
- (70) 4'-chloro-biphenyl-4-carboxylic acid [2-(2-nitro-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (71) 2',4'-dichloro-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (72) 4'-chloro-biphenyl-4-carboxylic acid{2-[4-(3-amino-pyrrolidin-1-ylmethyl)-phenyl]-ethyl}-amide
- (73) 4'-chloro-biphenyl-4-carboxylic acid{2-[4-(2-aminomethyl-pyrrolidin-1-ylmethyl)-phenyl]-ethyl}-amide
- (74) 4'-chloro-biphenyl-4-carboxylic acid{2-[4-(2-methyl-2,6-diazaspiro[3.4]oct-6-ylmethyl)-phenyl]-ethyl}-amide
- (75) 4'-chloro-biphenyl-4-carboxylic acid [2-(5-pyrrolidin-1-ylmethyl-pyridin-2-yl)-ethyl]-amide
- (76) 4'-chloro-biphenyl-4-carboxylic acid [2-(3-ethyl-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (77) 4'-bromo-biphenyl-4-carboxylic acid {2-[4-(2,5-dihydro-pyrrol-1-ylmethyl)-phenyl]-ethyl}-amide
- (78) 4-(5-chloro-thiophen-2-yl)-N-[2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-benzamide
- (79) 4'-chloro-biphenyl-4-carboxylic acid [2-(2-methyl-4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (80) 4'-bromo-3-fluoro-biphenyl-4-carboxylic acid {2-[3-bromo-4-(2,5-dihydro-pyrrol-1-ylmethyl)-phenyl]-ethyl}-amide
- (81) 4'-chloro-2-fluoro-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide

- (82) 4'-ethyl-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (83) tert.butyl [1-(4-{2-[(4'-chloro-biphenyl-4-carbonyl)-amino]-ethyl}-benzyl)-pyrrolidin-2-ylmethyl]-carbaminate
- (84) 4'-chloro-biphenyl-4-carboxylic acid {2-[4-(2-methyl-piperidin-1-ylmethyl)-phenyl]-ethyl}-amide
- (85) 4'-chloro-biphenyl-4-carboxylic acid {2-[4-(2-methyl-pyrrolidin-1-ylmethyl)-phenyl]-ethyl}-amide
- (86) 4'-chloro-biphenyl-4-carboxylic acid (2-{4-[(cyclopropylmethyl-amino)-methyl]-phenyl}-ethyl)-amide
- (87) 4'-chloro-biphenyl-4-carboxylic acid {2-[4-(3,4-dihydro-1H-isoquinolin-2-ylmethyl)-phenyl]-ethyl}-amide
- (88) 4'-chloro-biphenyl-4-carboxylic acid [2-(4-{[(2-hydroxy-ethyl)-methyl-amino]-methyl}-phenyl)-ethyl]-amide
- (89) tert.butyl [1-(4-{2-[(4'-chloro-biphenyl-4-carbonyl)-amino]-ethyl}-benzyl)-pyrrolidin-3-yl]-carbaminate
- (90) 4'-chloro-biphenyl-4-carboxylic acid {2-[4-(2,6-dimethyl-piperidin-1-ylmethyl)-phenyl]-ethyl}-amide
- (91) 4'-chloro-biphenyl-4-carboxylic acid [2-(4-azetidin-1-ylmethyl-phenyl)-ethyl]-amide
- (92) 3,4'-dichloro-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (93) 4'-fluoro-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (94) 4'-chloro-3-fluoro-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide

- (95) 2'-fluoro-4'-chloro-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (96) 5-(4-chloro-phenyl)-pyridine-2-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (97) 4'-chloro-biphenyl-4-carboxylic acid {2-[4-(2,5-dihydro-pyrrol-1-ylmethyl)-phenyl]-ethyl}-amide
- (98) 4'-bromo-biphenyl-4-carboxylic acid [2-(4-pyrrolidin-1-ylmethyl-phenyl)-ethyl]-amide
- (99) 4'-chloro-biphenyl-4-carboxylic acid {2-[4-(1-pyrrolidin-1-yl-ethyl)-phenyl]-ethyl}-amide.

30. Carboxamide compounds according to claim 29 selected from among the
 5 formulae (1), (2), (3), (4), (5), (6), (7), (8), (9), (10), (11), (12), (13), (14), (15), (16), (17), (18), (19), (20), (21), (22), (23), (24), (25), (25), (26), (27), (28), (29), (30), (47) and (50) to (99).

31. Process for preparing carboxamide compounds of formula I
 10

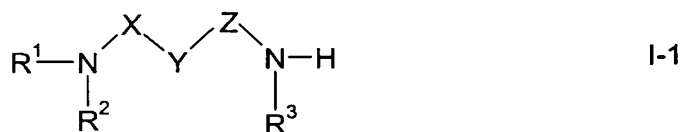


wherein A, B, W, X, Y, Z, R¹, R², R³ and k have one of the meanings
 specified in claim 1 and wherein

15

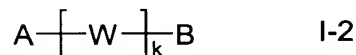
if A denotes a group R³ which is not connected to the group A:

- a) in the event that A denotes a nitrogen-heterocyclic group connected to the carboxamide group via a nitrogen atom which may also have in addition to the nitrogen atom one or more heteroatoms selected from N, O and S, at least one amine compound of formula I-1



wherein R¹, R², R³, X, Y and Z have the meanings given hereinbefore,

- 10 reacting with CDT (1,1'-carbonyldi-(1,2,4-triazole)), at least one secondary amine compound of formula I-2

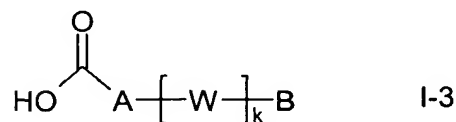


wherein A, B, W and k have the meanings given hereinbefore and the group A has the sec. amine function,

15

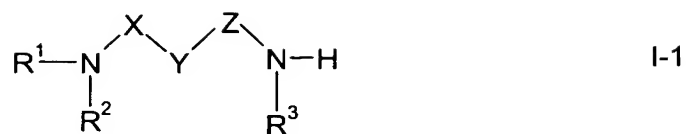
in a solvent or mixture of solvents in the presence of at least one base, and

- b) for the other cases at least one carboxylic acid compound of formula I-3



- 20 wherein A, B, W and k have the meanings given hereinbefore,

reacting with TBTU (2-(1H-benzotriazol-1-yl)-1,1,3,3-tetramethyluronium-tetrafluoroborate) and at least one amine compound of formula I-1



wherein R^1 , R^2 , R^3 , X, Y and Z have the meanings given hereinbefore,

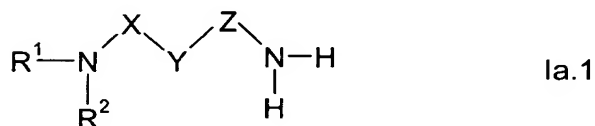
in a solvent or mixture of solvents in the presence of at least one base, and

5

if B is a group R^3 connected to the group A:

a) in the event of a group Q having the meaning $-\text{CR}^6\text{R}^7-$ (IIIa), while R^6 and R^7 are as hereinbefore defined, an amine compound of formula Ia.1

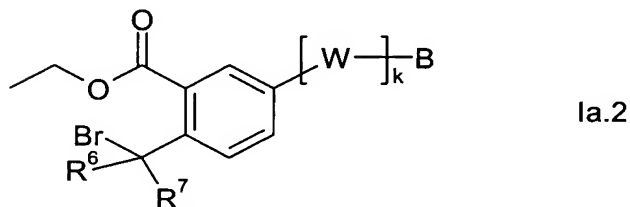
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wherein R^1 , R^2 , X, Y and Z have the meanings specified,

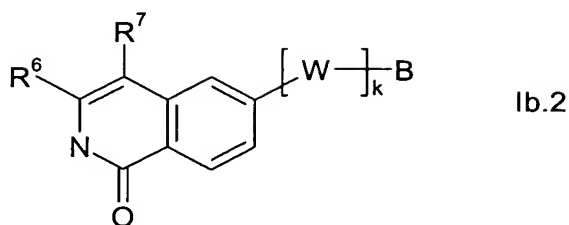
reacting with an o-bromomethyl-benzoic acid ester derivative of formula Ia.2

15



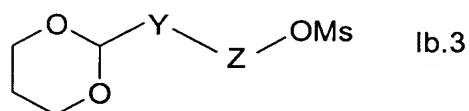
wherein R^6 , R^7 , W, B and k have the meanings specified,

20 b) in the event of a group Q having the meaning $-\text{CR}^6=\text{CR}^7-$ (IIIb), wherein R^6 and R^7 are as hereinbefore defined, an isoquinolinone derivative of formula Ib.2



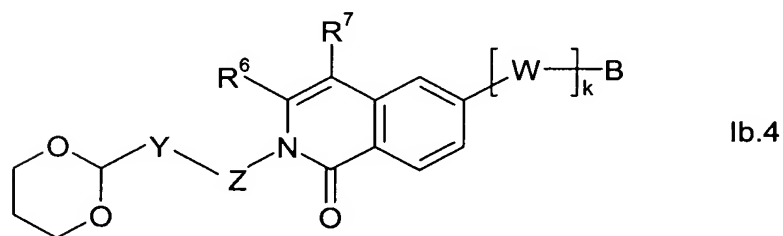
wherein R^6 , R^7 , W, B and k have the meanings specified,
reacting with an electrophilic compound of formula Ib.3

5



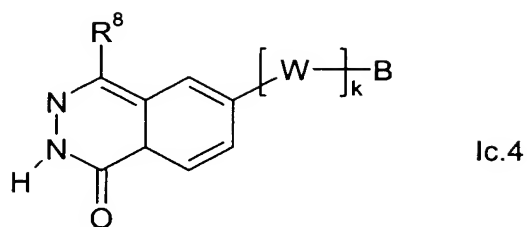
wherein Y and Z have the meanings specified and OMs denotes a suitable leaving
group, preferably mesylate, to obtain an isoquinoline derivative of formula Ib.4

10



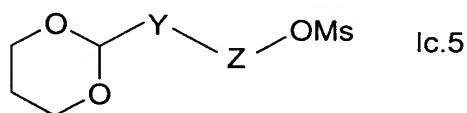
wherein R^6 , R^7 , W, B, Y, Z and k have the meanings specified, and the
isoquinoline derivative of formula Ib.4 is further derivatised by known methods to
15 form the compound of formula I,

c) in the event of a group Q having the meaning $-N=CR^8-$ (IIIc), wherein R^8 is as
hereinbefore defined, a phthalazinone derivative of formula Ic.4



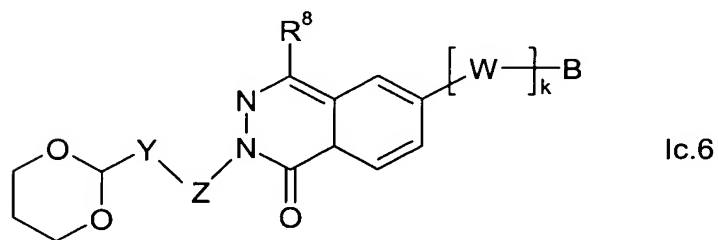
wherein R^8 , W, B and k have the meanings specified,
reacting with an electrophilic compound of formula Ic.5

5



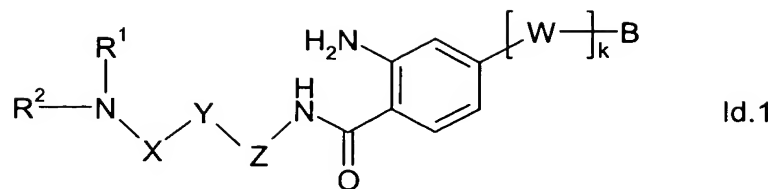
wherein Y and Z have the meanings specified and OMs denotes a leaving group,
preferably mesylate, to form a phthalazinone derivative of formula Ic.6

10



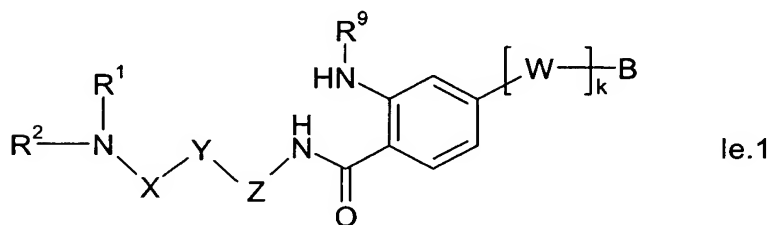
wherein R^8 , W, B, Y, Z and k have the meanings specified, and the phthalazinone
derivative of formula Ic.6 thus obtained is further derivatised by known methods to
15 form the compound of formula I wherein Q denotes $-N=CR^8-$ (IIIc),

d) in the event of a group Q having the meaning $-N=N-$ (IIId) an o-amino-
benzamide derivative of formula Id.1



wherein R^1 , R^2 , W, B, X, Y, Z and k have the meanings specified,
 reacting in the presence of a suitable nitrite compound and an acid to form the
 5 compound of formula I wherein Q denotes $-\text{N}=\text{N}-$,

e) in the event of a group Q having the meaning $-\text{CO}-\text{NR}^9-$ (IIIe), wherein R^9 is as
 hereinbefore defined, an o-amino-benzamide derivative of formula Ie.1

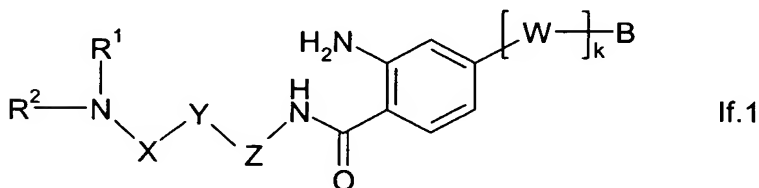


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wherein R^1 , R^2 , R^9 , W, B, X, Y, Z and k have the meanings specified,
 reacting in the presence of CDI (carbonyldiimidazole) to form the compound of
 formula I wherein Q denotes $-\text{CO}-\text{NR}^9-$,

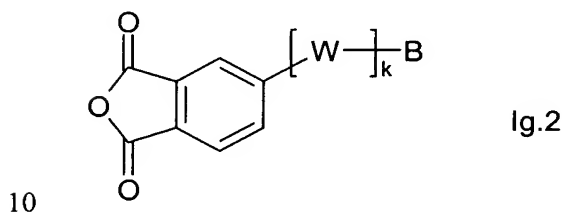
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f) in the event of a group Q having the meaning $-\text{CR}^8=\text{N}-$ (III f), wherein R^8 is as
 hereinbefore defined, an o-amino-benzamide derivative of formula If.1

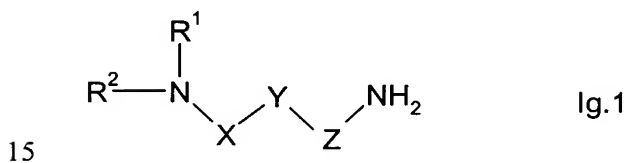


wherein R^1 , R^2 , W, B, X, Y, Z and k have the meanings specified,
 reacting with a carboxylic acid $R^8\text{COOH}$ having the meaning specified for R^8
 and/or a corresponding activated carboxylic acid derivative to form the
 5 quinazolinone derivative of formula I wherein Q denotes $-\text{CR}^8=\text{N}-$,

g) in the event of a group Q having the meaning $-\text{CO}-$ (IIlg) an isobenzofurandione
 derivative of formula Ig.2



wherein W, B and k have the meanings specified,
 reacting with an amine of formula Ig.1



wherein R^1 , R^2 , X, Y and Z have the meanings specified, to form the compound of
 formula I wherein Q denotes $-\text{CO}-$.

20 32. The physiologically acceptable salts of the carboxamide compounds
 according to claim 1.

33. Method of influencing the eating behavior of a mammal comprised of
 administering to a mammal a pharmaceutically effective amount of
 25 carboxamide compound according to claim 32.

34. A composition comprised of at least one carboxamide compound according to claim 1 further comprised of one or more physiologically acceptable excipients.
- 5 35. Pharmaceutical composition, containing at least one carboxamide compound according to claim 34 optionally together with one or more inert carriers and/or diluents.
- 10 36. Method of influencing the eating behaviour of a mammal comprised of administering to a mammal a pharmaceutically effective amount of a compound according to claim 1.
- 15 37. A method of reducing the body weight and/or prevention of an increase of body weight of a mammal comprised of the administration of a pharmaceutically effective amount of carboxamide compound according to claim 1 to a mammal.
- 20 38. Use of at least one carboxamide compound according to claim 1 for preparing a pharmaceutical composition with an MCH-receptor-antagonist activity.
- 25 39. Method of preventing and/or treating symptoms and/or diseases which are caused by MCH or otherwise casually connected with MCH, comprised of the administration to a patient in need thereof a pharmaceutically effective amount of a compound according to claim 1.
- 30 40. A method of treating metabolic disorders and/or eating disorders, obesity, bulimia, bulimia nervosa, cachexia, anorexia nervosa and hyperphagia comprised of the administration to a patient in need thereof of a pharmaceutically effective amount of a carboxamide compound according to claim 1.

41. Method of preventing and/or treating diseases and/or disorders associated with obesity, particularly diabetes, especially type II diabetes, complications of diabetes including diabetic retinopathy, diabetic neuropathy, diabetic nephropathy, insulin resistance, pathological glucose tolerance, encephalorrhagia, cardiac insufficiency, cardiovascular diseases, particularly arteriosclerosis and high blood pressure, arthritis and gonitis comprised of administering to a patient in need thereof a pharmaceutically effective amount of a compound according to claim 1.
42. Method of preventing or treating hyperlipidaemia, cellulitis, fat accumulation, malignant mastocytosis, systemic mastocytosis, emotional disorders, affective disorders, depression, anxiety, sleep disorders, reproductive disorders, sexual disorders, memory disorders, epilepsy, forms of dementia and hormonal disorders comprised of administering to a patient in need thereof a pharmaceutically effective amount of a carboxamide compound according to claim 1.
43. A method of preventing and/or treating micturition disorders, selected from a list consisting of urinary incontinence, hyperactive urinary bladder, urgency, nycturia and enuresis comprised of administering to a patient in need thereof a pharmaceutically effective amount of a compound according to claim 1.
44. Pharmaceutical compositions, containing a first active substance selected from the carboxamide compounds according to claim 1 and a second active substance selected from the group consisting of active substances for the treatment of diabetes, active substances for the treatment of diabetic complications, active substances for the treatment of obesity, preferably other than MCH antagonists, active substances for the treatment of high blood pressure, active substances for the treatment of hyperlipidaemia,

including arteriosclerosis, active substances for the treatment of arthritis, active substances for the treatment of anxiety states and active substances for the treatment of depression, optionally together with one or more inert carriers and/or diluents.